

REMARKS/ARGUMENTS

1. Objection to the Specifications

The Examiner has objected to the Specification due to the inclusion of references to particular claims therein. Applicant has amended the Specification to remove any direct reference to the claims, and to substitute the substance of those claims instead. Therefore, Applicant submits that the Examiner's objections have now been overcome.

2. Objections to the Claims

The Examiner has objected to Claims 35 and 37, based on the contentions that Claim 35 is in improper dependant form, and because Claim 37 repeats the phrase "selecting a" in line 4.

Applicant has amended Claim 35 to properly depend from Claim 1, and has amended Claim 37 to remove the duplicative phrase. Therefore, Applicant submits that the objections to Claims 35 and 37 should now be overcome.

3. Claim Rejections Under 35 U.S.C. §112

The Examiner has rejected claims 1-4, 6-12, 14 and 35, 15, 17-20, 21-24, 26-34, 36 and 38 under 35 U.S.C. §112, first paragraph, based on the contentions that they are not supported by the description nor are those claims enabled as regards the two limitations "crystal clear" and "isotropic refractive indexes." Applicant respectfully traverses the Examiner's contentions regarding both bases of rejection.

Applicant submits that the features of "crystal clear" and "isotropic refractive indexes" are in fact supported in the specification. The feature of crystal clear binding agents is referred to in line 24 of page 7 of the specification. Also figure 4 shows stars for those of the binding agents which are crystal clear. Page 2, line 31 of the specification refers to claim 7. One of the and/or-combinations of claim 7 relates to the case of the storage particles and the binding agents having an isotropic

refractive index. This language is now also found in the specification. Therefore, Applicant submits that those limitations are in fact shown in the Specification.

Furthermore, Applicant additionally submits that those elements are additionally enabled by the disclosure in the Specification. It is well known to the specialist in the field of solid state physics that all crystalline materials having an elementary cell of cubic symmetry have isotropic optical properties. To help illustrate this point, Applicant has enclosed partial copies of "Lexikon der Physik" (Encyclopedia of Physics) and of "Enzyklopädie Naturwissenschaft und Technik" (Encyclopedia of Science and Engineering), wherein relevant passages have been marked and translated. As can be seen from those references, it is well known to those of ordinary skill in the art that a crystal clear structure of the binding agents have molecules forming the polymer that are not of complete symmetry. In fact, these are rather elongated structures. In a polymer, however, the elongated structures are arranged in a random manner and it is by this random distribution that optical isotropy is achieved.

Additionally, Applicant has additionally enclosed part copies of the two encyclopedias which show that statistically oriented small entities (microcrystallites, molecules forming a gas or a liquid) macroscopically form an optically isotropic medium.

The specialist also knows that (also because of random orientation of the material) glassy material is optically isotropic. See the enclosed part copy of the "Lexikon der Physik" (Physics Encyclopedia) and part translation thereof.

From the above it is clear that the present Application teaches the specialist how to realize a flat storage element that is completely free from internal surfaces that might give rise to scattering of light by using a transparent and optically isotropic binding agent and a transparent and optically isotropic mixed crystal.

In addition to the knowledge of those of ordinary skill in the art, there is also a very simple way of discerning anisotropic and isotropic polymer media: If the material under X-ray illumination shows discrete point reflections, it is ordered and thus not optically isotropic. If there are no such sharp but smeared or line reflections, the molecules in the material are randomly oriented and the material is optically isotropic.

As such, Applicant submits that the disclosure of the specification is enabling both for the choice of the storage particles and of the binding agent.

4. Rejection Under 35 U.S.C. §103

The Examiner has rejected Claim 37, based on the contention that the claim is unpatentable over U.S Patent No. 5,693,254, issued to Sieber et al (Sieber '254). Sieber '254, however, fails to disclose or suggest the present invention as claimed. The first passage of claim 3, lines 53-57 of Sieber '254 relates to a luminescent screen including small or large crystals held in place by a layer of binder. As to the phosphorescent salt there are hints to solid solutions between different CsRbZn-chlorides and promides. Column 9, lines 12-14 of this reference also indicate that the index of refraction of the luminescent salt can be adjusted by changing the ratio between promide and chloride ions.

The phosphorescent salts considered in Sieber '254, however, are all anisotropic since the crystallize in the tetragonal space group I (column 14, line 32). Thus, Applicant submits that Claim 37 is not rendered obvious by Sieber '254. In order to even better distinguish this claim over Sieber '254, therefore, the features of the binding agent and the first and second salt being optically isotropic have been specifically included into Claim 37.

Applicant additionally notes that the Examiner has specifically stated that Claims 1-4, 6-12, 14 and 35, Claims 15, 17-20, Claims 21-24, 26-34, Claim 36, and Claim 38 would be allowable if rewritten to overcome the rejections under 35 U.S.C. §112, first paragraph. In light of the comments and amendments made above, Applicant submits that all of those claims should now be in condition for allowance.

5. New Claims

Applicant has added several new claims to illustrate further embodiments of the present invention. New independent claim 39 corresponds to the combination of claims 21 and 34 and cites particular crystal clear and optically isotropic binding agents. Subclaims 40 to 49 depending from claim 39 materially correspond to claims 2 to 11. New independent claim 50 is similar to new claim 39 and in addition cites alkali halides as the crystal clear and optically isotropic salts (see table 2 of the original specification and page 9, line 14 thereof giving the term alkali halides). Subclaims 50 to 58 materially correspond to claims 2 to 11.

Applicant notes that these claims add no new matter to the Specification.

6. Conclusion


Independent claims 1, 15, 21, 36, 37, 39 and 49 should now be in condition for allowance. Therefore reconsideration of these claims along with dependent claims 2-4, 6-12, 14, 17-20, 22-24, 26-35, 38, 40-48 and 50-58 is respectfully requested.

Should anything further be required, a telephone call to the undersigned, at (312) 226-1818, is respectfully invited.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 21, 2005.

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